

Name _____

Quantum Model Questions

In 1924, Louis deBroglie suggested that electrons behaved like waves. How was this proven?

1. deBroglie suggested that _____ is like energy, while Planck postulated that energy behaves like _____.
2. The fact that electrons can behave like waves and particles simultaneously is called _____.
3. The scientist who derived an equation that successfully described the behavior of waves was _____.
4. The _____ says that we can never precisely know where an electron is or how fast its going. (Giving up looking for electrons is really worth a million dollars)
5. In Bohr's model electrons were in 2D _____, while in the quantum model electrons are located in 3D _____.
6. In the quantum model, the _____ indicates the energy level where the electrons are located.
7. In the quantum model, _____ indicates the orbital where the electrons are located.
8. In the quantum model, the _____ says that electrons are added to energy levels from lowest to highest energy.
9. In the quantum model, the _____ says that one electron must be added to a suborbital before doubling them in a suborbital.
10. In the quantum model, the _____ says that no two electrons can have the same arrangement in a atom (ie. The same four quantum numbers).

In the space below (or on the back of this paper), compare and contrast the quantum model of the atom and Bohr's model of the atom.